EXPERIMENT - 3

TITLE : Introduction to python containers (tuple and dictionary), conditional statements(if-else,elif) ,loops(for) and functions

OBJECTIVE : To use Python containers (tuple and dictionary), checking conditions with if-else and elif statements, using for loops to iterate (used range) and use functions by using different ways of passing an argument

Code :

```
#Day 3

#Introduction to python tuples,dictionary,conditional checking,loops

print("1 : Containers : Tuples,Dictionaries \n2 : Conditional checking and
loops","\n")

print("//Tuple//")
T = (1,2.3,"RCCIIT")  #initializing a tuple
print(type(T))

print(T[1])
print(T[-1])
print(T[-1][0:3])
print(T[-1][-1:-4:-1])
print(type(T[-1]))
print(T,"\n")

#for only one element the type of the container becomes the element type
#To get tuple we have to add a ","
T = ("RCCIIT")
print("For only one element in tuple : ",type(T),"\n")

#Dictionary
print("//Dictionary//")
RCCIIT = {"Dept" : ["ECE","CSE","IT","EE"], "STD" : [120,210,120,60]}
print(type(RCCIIT))
print("Departments : {}".format(RCCIIT["Dept"]))
print("Total students in each department : {}".format(RCCIIT["STD"]))
print(type(RCCIIT["Dept"]))
print(type(RCCIIT["Dept"][-2]),"\n")

#To know all the keys in the created dictionary
print(RCCIIT.keys(),"\n")

#Converting to other containers using type casting
```

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print("Dictionary typecast to list : ",list(RCCIIT.keys()))
print("Dictionary typecast to tuple : ",tuple(RCCIIT.keys()),"\n")

print("//Condition checking(using boolean)//")
#Condition checkings with boolean
var1 = True
var2 = False

var3 = var1 and var2
print(type(var1),type(var2))
print(var3,"\n")

x = 2
y = 3
z = x == y
print(z)

w = not var2
print(w,"\n")

print("//using if-else//")
#Condition checking with if-else
age = 20
if age >= 18:
   print("You are eligible to vote")
else:
   print("You aren't eligible to vote")

a = 10
b = 20
c = 30

print("//using elif//")
#elif condition
if a > b and b > c:
   print("Max value is {}".format(a))
elif b > a and a > c:
   print(" Max value is {}".format(b))
else:
   print("Max value is {}".format(c))
print("\n")

#Loops
#for
print("//for loop//")
for i in range(5):
   print(i,"-> RCCIIT")
print("\n")
for j in range(0,10,2):
   print(j)
print("\n")

#functions
#Here is the syntax of defining a function in python
print("//function//")
def func_name(var1 = 100,var2 = 200):
   if var1 > var2:
      print("var1 is greater than var2")
      return "first condition was executed"
   elif var1 < var2:
      print("var1 is lesser than var2")
      return "second condition was executed"
   else:
      print("Both are equal !!")
      return "last condition was executed"

#print("\n")
print(func_name()) #Since, no arguments are passed the parameters will be used
print(func_name(120))   #for only one argument the first parameter will be
modified by default
print(func_name(var2 = 80)) #this specifically modifies the variable passed (here
it is the second parameter in function)
```

Output :

```
1 : Containers : Tuples,Dictionaries
2 : Conditional checking and loops

//Tuple//
<class 'tuple'>
2.3
RCCIIT
RCC
TII
<class 'str'>
(1, 2.3, 'RCCIIT')

For only one element in tuple :  <class 'str'>

//Dictionary//
<class 'dict'>
Departments : ['ECE', 'CSE', 'IT', 'EE']
```

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Total students in each department : [120, 210, 120, 60]
<class 'list'>
<class 'str'>

dict_keys(['Dept', 'STD'])

Dictionary typecast to list :  ['Dept', 'STD']
Dictionary typecast to tuple :  ('Dept', 'STD')

//Condition checking(using boolean)//
<class 'bool'> <class 'bool'>
False

False
True

//using if-else//
You are eligible to vote
//using elif//
Max value is 30


//for loop//
0 -> RCCIIT
1 -> RCCIIT
2 -> RCCIIT
3 -> RCCIIT
4 -> RCCIIT


0
2
4
6
8


//function//
var1 is lesser than var2
second condition was executed
Both are equal !!
last condition was executed
var1 is greater than var2
first condition was executed
```